WISCONSIN WELLHEAD PROTECTION NEWS

Fall 2000

CONGRATULATIONS!
Congratulations are in order for a number of communities who are or have been involved in wellhead protection planning to protect their water supply wells. Adams, Bayfield, Bristol, Chippewa Falls, Darboy Sanitary District, DeForest, Dresser, East Troy, Elmwood, Fennimore, Hartford, the City and Town of Lodi, Phelps, Reedsburg, Richland Center, Sauk City, Shawano, Spring Green, Stevens Point, Stitzer, Somerset, Warrens, Wautoma, Westby and Wiota have worked or are working with Department or Wisconsin Rural Water Association staff on wellhead protection plans, ordinances or both. You are commended for being proactive in protecting your water supply.

Communities which have developed wellhead protection plans for new wells in 2000 include Ashwaubenon, Coloma, Little Chute, Montfort, the City of Pewaukee, Pittsville, Randolph, Rib Mountain Sanitary District, Richland Center, Sister Bay, Siren, and Wrightstown. Hats off to these communities as well for recognizing the importance of wellhead protection. Keep up the good work!

If you would like assistance from the Department in getting started, three Department staff are available. Dave Johnson (608-261-6421 or johnsdm@dnr.state.wi.us) works with northeast and south central Wisconsin communities. Dave Lindorff works with communities in the southeast part of the state. Randell Clark (608-267-7895 or clarkr@dnr.state.wi.us) works with communities in west, central and northern Wisconsin. All three have the same address and fax number.

As you may have noticed, there has been increased attention focused on groundwater in recent months. I'm including information on two recent efforts to address groundwater issues in Wisconsin. This newsletter also includes information on new resources that are available to assist with wellhead protection planning and a success story involving cooperation to protect groundwater.

If you have ideas regarding topics or questions that could be addressed in future newsletters, contact me by phone (877-268-9355 toll free), by fax (608-267-7650), by email (lindod@dnr.state.wi.us) or regular mail (Wisconsin DNR, P. O. Box 7921, Madison, WI 53707-7921).

I hope you find this issue informative. Have a wonderful Fall!

Dave Lindorff, Editor

NEW DRINKING WATER SECTION CHIEFS

Jill Jonas, Director of the Bureau of Drinking Water and Groundwater, announced the appointment of Lee Boushon as the new Chief of the Drinking Water Systems Section and Don Swailes as the new Chief of the Drinking Water Quality Section. Don and Lee bring a total of over 40 years of experience to their new positions. Lee will supervise the public water supply plan review program and Don will supervise Safe Drinking Water Act implementation. Lee can be reached at 608-266-0857 or boushl@dnr.state.wi.us. Don can be reached at 608-266-7093 or swaild@dnr.state.wi.us.

"WATER RICH, WATER POOR" VIDEO

Public television stations recently aired a program about Wisconsin's groundwater, called "Water Rich, Water Poor." This 30 minute segment was developed by Art Hackett of Wisconsin Public Television during the summer of 2000 and nicely summarizes current groundwater issues within the state. Among the statewide issues discussed are arsenic; groundwater withdrawals; groundwater-surface water interactions; lake recharge of groundwater; aquifer storage and recovery; groundwater flow plus more. Copies of the video can be purchased from WHA TV by calling Evie Fleming at 608-263-4575. Her email address is fleminge@wpt.org.

GROUNDWATER QUANTITY

The controversy over Perrier's proposed groundwater withdrawals and concern about dropping water levels in different parts of the state are raising concerns about groundwater quantity issues. In an attempt to address those concerns, a graduate-level water resources policy class at the University of Wisconsin Madison looked at these issues this past spring. The result of that effort was a report which discusses the potential impacts of high capacity wells on the environment, summarizes the existing law for managing groundwater in Wisconsin, reviews programs in selected states, and discusses issues and strategies for improving groundwater quantity management in Wisconsin. The report identifies existing laws that could be invoked to expand the state's authority to regulate high capacity wells as well as making recommendations for new legislation. The report is entitled "Modernizing Wisconsin Groundwater Management: Reforming the High Capacity Well Laws" and is available from the Department of Urban and Regional Planning, UW-Madison/Cooperative Extension, 112-A Old Music Hall, 925 Bascom Mall, Madison, WI 53706 for $7.00 per copy. (also available at http://www.wisc.edu/urpl/facultyf/bornf/projectsf/hicaplaw.pdf.

WELLHEAD PROTECTION ORDINANCES

I recently completed a revision of the example ordinances contained on the Department's wellhead protection website: www.dnr.state.wi.us/org/water/dwg/gw/whp.htm. A number of changes were made to make them consistent with current terminology. The four examples can be downloaded and edited to suit your community's particular needs. Thanks to Chippewa Falls for assisting in this effort. I can also send them to you in paper format.

WELLHEAD PROTECTION SLIDES

As noted in the Spring newsletter, the Department has prepared a video, "An Ounce of Prevention", which encourages communities to be proactive in protecting their water supply by developing a WHP plan. The 16-minute video focuses on the steps needed to protect community wells, the benefits of preventing contamination and the resources available to help communities get started. It shows how three Wisconsin communities successfully used wellhead protection planning to safeguard their valuable water supplies. If you didn't a copy but would like one, contact Dave Lindorff.

In addition, work has been completed on a set of slides describing Wisconsin's wellhead protection program, the steps needed to develop a wellhead protection plan and resources available to assist communities. A web presentation is being developed from the slides and will be on the Department's WHP website by the beginning of December, accompanied by explanatory text. The slides were developed from a PowerPoint presentation, which will also be available for downloading and use with PowerPoint or a free PowerPoint viewer. Dave Lindorff can also send you an email containing the PowerPoint presentation or lend you a copy of the slides.

WELLHEAD PROTECTION TEMPLATE

As noted in the last newsletter, the Department has just completed an update to a 1984 publication. The new document is titled, "A Template for Preparing Wellhead Protection Plans for Municipal Wells." This publication describes how to complete each of the nine steps for a wellhead protection plan for a new well as outlined in administrative code NR811.16. Although this "Template" is intended for use by those municipalities required to prepare a WHP plan, communities with existing wells are strongly encouraged to use this document as well. Contact Dave Lindorff to get a copy. It's also available in an Adobe Acrobat (pdf) format to be downloaded from the Department's wellhead protection website: www.dnr.state.wi/org/water/dwg/gw/whp.htm

WORKING TOGETHER TO PROTECT GROUNDWATER

What do you do when you see elevated levels of contaminants in your municipal water supply? What if the source of those contaminants is outside the municipal boundary? Waupaca faced this situation in the early 1990s. The City responded proactively to address the source of contamination and, in doing so, saved the City's residents a considerable amount of money.

In the early 1990s, Waupaca's Water Utility began seeing a rise in nitrate levels. The City responded by forming a wellhead protection commission to find a solution to the problem. The commission consisted of city, town and county representatives, technical experts and public citizens. The commission hired the Central Wisconsin Groundwater Center (CWGC) to identify the recharge area for the wells. The nitrates were found to be coming from two wells, 5 and 6, located outside the City limits and surrounded by agricultural fields. The CWGC determined that nitrogen fertilizer applied to corn and soybean fields was converting to nitrate in groundwater and affecting the two wells. Much of the agricultural activity was within the one- and five-year time of travel to the two wells.

Reducing the concentration of nitrates getting into the well meant reducing the amount of nitrogen being applied to the crops. But what was the best way to accomplish this? The wellhead protection commission began working with the farmers in the area to convince them of the importance of protecting groundwater quality. The City applied for and received a nonpoint source priority watershed grant and hired a crop consultant to work with the farmers on nitrogen use reduction; there was no cost to the farmers. Ultimately, the City developed agreements with several local farmers to grow soybeans instead of corn. Soybeans use much less nitrogen fertilizer than corn. The City pays each farmer the difference between what the farmer would make growing corn and what he or she makes growing soybeans.

To check the impact of these actions on groundwater quality, the City installed 8 monitoring wells located upgradient from the two City wells. Each monitoring well is actually a nest of three wells at a shallow, moderate and deep depths. This allows the City to see what the nitrate concentrations are at many locations and different depths. The City tests all 24 monitoring wells quarterly along with the two City wells and graphs that data, looking for trends before high nitrate levels show up in the City wells.

The result has been a win-win situation. The farmers win because they can continue to farm and don't lose any money in the process. The City wins because less nitrogen is applied to the soil and therefore less nitrates are getting into groundwater. The monitoring wells installed near wells 5 and 6 show that nitrate concentrations in the aquifer are declining. The City (and the residents of Waupaca) have avoided the cost of a nitrate treatment plant, which might be $2 million or more for construction and $50,000 or more for annual operation and maintenance costs. Waupaca's wellhead protection commission proactively identified the source of contamination and worked closely with local farmers to reduce the threat to groundwater. The commission continues to look for ways to protect these wells for the future.

CONTAMINANT SOURCE INVENTORY RESOURCES ON THE WEB

A number of excellent web based information resources are available from DNR, Department of Commerce and EPA to help in doing a contaminant source inventory for a community. Below are four web sites to assist you in doing a more thorough job of gathering existing information for your city, town or village.

The DNR's Bureau of Remediation and Redevelopment Tracking System (BRRTS) can generate a list of spill, leaking underground storage tank (LUST) and environmental response and repair (ERP) sites. BRRTS data is searchable by latitude/longitude or public land survey (PLS) coordinates, county, company name, address, municipality and several other criteria. It is available at the following address:
http://www.dnr.state.wi.us/org/aw/rr/brrts/index.htm

The DNR's Bureau of Remediation and Redevelopment posted the Registry of Waste Disposal Sites in Wisconsin from June 1999. This document is available in Adobe portable document format (pdf). The document contains information for the entire state, and is sorted by county. It is available at the following address:
http://www.dnr.state.wi.us/org/aw/rr/archives/pubs/rr108.pdf

The Wisconsin Department of Commerce has their storage tank database posted on the web. This site database contains listings for above and below ground, and active and inactive tanks. Data is searchable by owner, address, county,

municipality and many other criteria. It is available at the following address: http://www.commerce.state.wi.us/ER/ER-EN-tanks-info.html

The USEPA's ENVIROFACTS system can produce a list of EPA-regulated facilities, and list whether these facilities have had releases or are required to report for other reasons. Data is searchable using zip code, address, city, county, facility ID and a number of other possibilities. Another interesting application available is EnviroMapper. This application allows you to zoom in and display information graphically on a map containing baseline data for roads, railroads, streams, schools, churches and hospitals. Along with baseline information it also displays locations for discharges to water, superfund and hazardous waste sites, toxic releases, air releases and several other categories. Both are available at the following address: http://www.epa.gov/enviro/index_java.html.

EnviroMapper is available directly at the following address: http://maps.epa.gov/enviromapper/

The Wisconsin Wellhead Protection Newsletter is a publication of the Wisconsin Department of Natural Resources' Bureau of Drinking Water and Groundwater. Its purpose is to provide current information on wellhead protection topics. It is published in the spring and fall and as needed.

Comments, questions, suggestions and articles are welcome and can be sent to: David Lindorff, Editor, Wisconsin Wellhead Protection Newsletter Department of Natural Resources, P. O. Box 7921, Madison, WI 53707-7921
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The Wisconsin Department of Natural Resources provides equal opportunity in its employment, programs, services and functions under an Affirmative Action Plan. If you have any questions, please write to Equal Opportunity Office, Department of the Interior, Washington, D. C. 20240. This newsletter is available in alternate format upon request. If interested, please contact David Lindorff, Editor.

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